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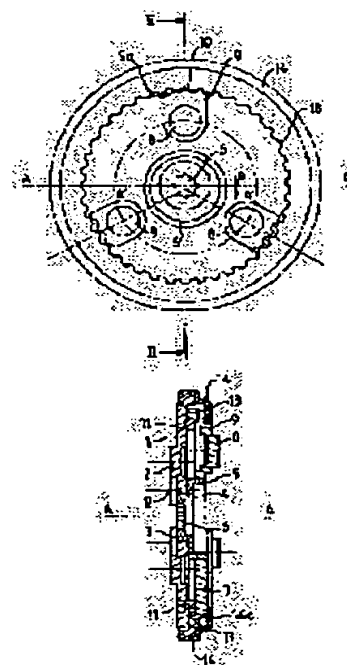
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(54) JOINT DEVICE OF VEHICULAR SEAT

(57)Abstract:

PURPOSE: To reliably hold a seat back part of a vehicular seat in an adjusted inclined position by forming teeth in an edge part of a joining pan member of a fixed flange and a movable flange, making them cooperate with a toothed part partially formed into a prescribed shape on the movable flange, and specifying a tooth. height of the toothed part.

CONSTITUTION: When a cup member 3 is rotated in the case of adjusting an inclination of a seat back part to a seat part of a seat, a movable flange 7 is driven in rotation by eccentricity. Teeth 13 of the movable flange 7 roll teeth 11 of a fixed flange 1, and the movable flange 7 operates on a trajectory. One of teeth 10 of a part 9 formed by partial cutout or embossment, separates from fixed teeth 18 of a pan member 14 by this trajectory motion, and gradually contacts with the fixed teeth 18 through the other teeth 10. A height of these teeth 10 is set equal to two times an eccentric quantity (e) between shoulders 4 and 5 of the cup member 3. Therefore, one of the teeth 10 engages with the teeth 18, and locks the movable flange 7 on the fixed flange 1.



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CLAIMS

[Claim]

[Claim 1] Collaborate with a double epicyclic gear (5), or it has the fixed flange (1) which has the internal tooth (7) of a movable flange (8), and the internal tooth (3) which collaborates directly. On the other hand, the gear tooth (4, 6) of the aforementioned double epicyclic gear (5) gears with the aforementioned internal tooth (3) of the aforementioned fixed flange (1). On the other hand, collaborate with the internal tooth (7) of a movable flange (8), and it has further the eccentricity field which acts on the aforementioned epicyclic gear or acts on the aforementioned movable flange (8) directly. The driving shaft of this eccentricity field has at least one salient (21a), and the aforementioned eccentricity field is constituted by the disk (18, 19) of two sheets which can move in angle relatively. These disks of each other are connected by the elastic element (30) held in two arch-like apertures (23, 24). At least one circular **** (18a, 19a) is formed in the core of these disks (18, 19), respectively. In the joint equipment with which hollow housing (18b, 19b) made as [accept / a salient (21a) of the aforementioned driving shaft] is prolonged from these ****s and which is used for the seat of an automobile It is the joint equipment used for the seat of the automobile characterized by the aforementioned disk being un-circular respectively and holding it in the aforementioned epicyclic gear or opening (5a) of a movable flange, removing an opening when these disks are in the mutually distant position, and changing joint equipment into the irreversible status.

[Claim 2] the time of being in the position which these disks boiled mutually two hollow housing (18b, 19b) of a disk, and was left — an angle — like — ****ing — **** — in this way — a salient of a driving shaft — first — on the other hand, the joint equipment used for the seat of the automobile of the claim 1 characterized by having acted on the disk, releasing the eccentricity field and subsequently to the disk of two sheets acting simultaneously

[Claim 3] Each arch-like aperture is joint equipment used for the end at the seat of the automobile of the claims 1 or 2 characterized by having **** (23a, 24a) which offers the opposite plane of composition to a spring on single arch-like opening.

[Claim 4] It is the joint equipment used for the seat of the claim 1 characterized by making the coronary field (13) which makes connection between a fixed flange (1) and a movable flange (8) by the crimping (15), and consists of a ball (14) between this crimping (15) and movable flange (8) intervene, or any 1 automobile of 3.

[Claim 5] Opening (25, 26, 27, 28) ****ed by the eccentricity of these disks (18, 19) in case a disk (18, 19) is countered in the diameter orientation for every disk and an elastic element (30) is compressed in angle as a pair is formed. When fault compression of the elastic element is carried out, these openings (25, 26, 27, 28) Joint equipment used for the seat of the claim 1 characterized by permitting the equipment of the control cam offered by the assistance of arbitrary components with the disk (18, 19) of two sheets, or any 1 automobile of 4.

[Claim 6] Joint equipment used for the seat of the claim 1 characterized by pasting up the disk of each other in an insertion position, or any 1 automobile of 5.

[Claim 7] Joint equipment used for the seat of the claim 1 characterized by having two fractions (180) which one disk (18) ****s with inside opening (190) of the disk (19) of another side, and which were started partially, or any 1 automobile of 6.

[Claim 8] Joint equipment used for the seat of the claim 1 characterized by ****ing the disk of two sheets on the bearing fixed to one flange, or any 1 automobile of 6.

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DETAILED DESCRIPTION

[Detailed description]

[0001] this invention relates to the joint equipment (Ate *****) used for the seat of an automobile, and the joint equipment which sets up the inclination of the head rest especially prepared in the inclination of back reclining on a seat, or the crowning of back reclining, or stabilizes the position of such a seat.

[0002] The joint equipment formed in the seat of an automobile for the purpose mentioned above is already known, and the drive is directly performed through an epicyclic gear (satellite) to a movable flange. These joint equipments are equipped with this cam half field put back by the central elastic component.

[0003] Such joint equipment is indicated by the FR-A-2479885 No. which gave the direct-drive force to the FR-A-2649050 No. and movable flange which were made to drive through the epicyclic gear.

[0004] However, that these joint equipments remove an opening (path clearance) does not only give irreversibility to joint equipment.

[0005] it has an epicyclic gear also in DE-A-3419492 No. — it is — it is — it is the joint equipment which it does not have, and it has the flange which has the gear tooth of a cone, and what removed the opening between ****s by the spring which acts the gear tooth of this cone on shaft orientations is indicated

[0006] With a spring, this joint equipment is equipped also with the drive cam which consists of a circular disk of two sheets each other detached, and removes only a bearing clearance (bearing clearance).

[0007] The purpose of this invention aims at removing a bearing clearance and giving irreversibility (non-retroaction nature) to joint equipment while it removes the opening between dental through the cam disk of two sheets, without using the gear tooth of an expensive cone.

[0008] The joint equipment of this invention collaborates with a double epicyclic gear, or is equipped with the fixed flange which has the internal tooth of a movable flange, and the internal tooth which collaborates directly. On the other hand, the gear tooth of the aforementioned double epicyclic gear gears with the aforementioned internal tooth of the aforementioned fixed flange. On the other hand, collaborate with the internal tooth of a movable flange, and it has further the eccentricity field which acts on the aforementioned epicyclic gear or acts on the aforementioned movable flange directly. The driving shaft of this eccentricity field has at least one salient, and the aforementioned eccentricity field is constituted by the disk of two sheets which can move in angle relatively. These disks of each other are connected by the elastic element held in two arch-like apertures. At least one circular **** is formed in the core of these disks, respectively. In the joint equipment with which hollow housing made as [accept / a salient of the aforementioned driving shaft] is prolonged from these ****s and which is used for the seat of an automobile It is characterized by the aforementioned disk being un-circular respectively and holding it in the aforementioned epicyclic gear or opening of a movable flange, removing an opening, when these disks are in the mutually distant position, and changing joint equipment into the irreversible status.

[0009] the time of being in the position which these disks boiled two hollow housing of a disk mutually, and was left in order to close a control of joint equipment according to other characteristic features of this invention, if certain — an angle — like — ****ing — **** — in this way — a salient of a driving shaft — first — it acts on a disk, the eccentricity field is released, and while is made as [act / simultaneously / subsequently to the disk of two sheets]

[0010] According to the characteristic feature of further others of this invention, in order to guarantee an operation of a spring, each arch-like aperture has **** which offers an opposite plane of composition [as opposed to / as opposed to the end / a spring in it] on single arch-like opening.

[0011] According to another characteristic feature of this invention, connection between a fixed flange and a movable flange is made by the crimpling, and the coronary field which consists of a ball between this crimpling and movable flange intervenes.

[0012] Hereafter, this invention is explained with reference to a drawing. Although the joint equipment explained below is equipped with the epicyclic gear, the eccentricity field can act on a movable flange directly.

[0013] As shown in drawing 1, the joint equipment of this invention is equipped with the fixed flange 1, and this fixed flange 1 is combined with the frame of a seat by the holddown member of the arbitrary formats combined with the lobe (semi-cut) 2 which was partially started by the pars basilaris ossis occipitalis, or was hammered out by welding. And this fixed flange 1 has the gear tooth 3 made as [collaborate / with the gear tooth 4 of an epicyclic gear (satellite) 5] inside, and the second gear tooth 6 of an epicyclic gear 5 gears as partially as the gear tooth 7 of the movable flange 8. The fixed flange 8 is being fixed to the frame of back reclining through the lobe 9.

[0014] Opening or the slot 10 is formed in the core of the fixed flange 1 corresponding to central opening or the slot 11 of the movable flange 8.

[0015] The periphery edge of the movable flange 8 receives the coronary field (crown) 13 which consists of a ball 14, and the fixed flange 1 and the movable flange 8 are connected by the crimpling 15 (refer to drawing 1 and drawing 2) as especially shown in drawing 1 and drawing 2 clearly.

[0016] The disks 18 and 19 of two sheets are arranged in opening 5a of an epicyclic gear 5, it is equipped with these disks on the shaft 20 which has the main bearing side 21 of a major diameter in which salient 21a was formed, and the ends of a shaft 20 consist of an extension of the shape of a cylinder of a diameter equal to the diameter of opening formed in the fixed flange 1 and the movable flange 8, or the slots 10 and 11.

[0017] The disks 18 and 19 arranged in concavity 5a of an epicyclic gear 5 have the same configuration of a non-round shape, as shown in drawing 3 A, drawing 3 B, and drawing 4. In fact, although main opening 5a of an epicyclic gear 5 is circular as clearly shown in drawing 4, although the piled-up disks 18 and 19 have the same configuration, they are not filling completely main opening 5a of an epicyclic gear 5. In drawing 3 A (the part is expanded to drawing 3 B, and is shown), disks 18 and 19 are mutually separated in the non-setting up position, and the substantial circle which becomes together and, on the whole, occupies main opening 5a of an epicyclic gear 5 as a matter of fact is formed. A disk 19 is ****ed on the right and the disk 18 is ****ed on the left. Furthermore, hollow housing 18b is prolonged from the lower part of main **** or opening 18a, and hollow housing 19b is prolonged from main **** or opening 19a. And on the right, 19b is equal to the left and 18b is ****ing these hollow housing.

[0018] Each disks 18 and 19 have an arch-like aperture, the aperture of a disk 18 is a sign 23 and the aperture of a disk 19 is shown by the sign 24. The aperture of the shape of these arch is a said core-like to the medial axis of each disk. **** 23a is prepared in the end of an aperture 23, and **** 24a is prepared in the opposite-side edge of an aperture 24. these two ****s — the end of a spring — one disk — an opposite — **ing (it not opposite-**ing on the disk of another side)

— it approves and permits that the other end of a spring opposite-***s on the disk of another side

[0019] Furthermore, although a disk 19 has openings 25 and 26, and a disk 18 has openings 27 and 28 and every two openings of these have countered in the diameter orientation, opening of the disk of two sheets is ****ed mutually slightly (drawing 3 B).

[0020] Finally, a sign 30 shows the aperture 23 of the shape of an arch of disks 18 and 19, and the elastic component held in 24, when the disks 18 and 19 of each other are combined on the main bearing side 21 of a shaft 20. This elastic component can be considered as a spring (drawing 1 , drawing 2 , drawing 3 A , drawing 3 B , drawing 4) or an elastic block (drawing 5 or drawing 11).

[0021] In a non-setting up position, each part article occupies the position shown in drawing 3 A and drawing 3 B. Salient 21a is in a center position, and the disks 18 and 19 of two sheets are mutually separated. Since the appearance of these disks 18 and 19 is un-circular, it tends to put back an epicyclic gear up. That is, the gear teeth 4 and 6 of an epicyclic gear 5 are pushed to the gear tooth of one flange 1, i.e., a fixed flange, or the movable flange 8. Moreover, a disk is blocked so that it may not rotate with an epicyclic gear 5.

[0022] Salient 21a is rotated in angle by rotation of a shaft 20 to change a position by manual control or the motor (generally electric motor). In that case, salient 21a carries out the variation rate of the disk 19 first, and, subsequently carries out the variation rate of the disk 18. By this, the disks 18 and 19 of each other are adjusted, namely, lap as a matter of fact. Thereby, fault compression of the spring already compressed from the beginning is carried out.

[0023] In this position of disks 18 and 19, it is enabled to drive these disks simultaneously and a cam is formed in this way. By rotating within concavity 5a of an epicyclic gear 5, this cam rotates an epicyclic gear 5. By carrying out the rolling motion of the internal-tooth 3 top of the fixed flange 1, a gear tooth 4 rotates the gear tooth 6 of an epicyclic gear 5 by driving the movable flange 8 through a gear tooth 7 as everyone knows about all double epicyclic-gear joint devices.

[0024] If the position which joint equipment needs is arrived at, rotation of a shaft 20 will be stopped. Then, salient 21a occupies the center position again, and disks 18 and 19 separate mutually by operation of the elongated spring 30. In this way, the gear tooth of an epicyclic gear 5 is blocked by the pars basilaris ossis occipitalis of any of the fixed flange 1 or the movable flange 8, or one gear tooth, and the opening which the irregularity produced for these gear teeth at the time of cutting of these gear teeth has arisen owing to is removed.

[0025] Moreover, with the eccentricity field, rotation of an epicyclic gear is prevented and joint equipment will be in the irreversible status.

[0026] the hand of cut of a shaft 20 — how — be — namely, a clockwise rotation — be — a counterclockwise rotation — be — the same operation is performed

[0027] In drawing 5 and drawing 6 , the disks 18 and 19 of two sheets are ****ed on resection section 1a of flanges 1 and 8, and 8a. The shaft 120 is guided in these resection circles. The advantage of this configuration is that there are no disks 18 and 19 then and direct center doubling is carried out on a flange through a shaft 120.

[0028] The operation of this joint device is completely the same as that of what was mentioned above.

[0029] In drawing 7 and drawing 8 , the disks 18 and 19 of two sheets are ****ed on the bearing 8c with the same flange, and according to this configuration, main doubling is improved further. It is completely the same with having mentioned the operation of this joint equipment above.

[0030] Finally, the device which used the DIP rod 140 is shown in drawing 9 and drawing 10 . One rod is prolonged through the openings 25 and 27 of disks 18 and 19, and the rod of another side is prolonged through the openings 26 and 28 of disks 18 and 19. This permits that this double cam is set as the predetermined position in concavity 5a of an epicyclic gear 5, and fault compression of the elastic element is carried out in this case.

[0031] In drawing 11 , drawing 9 and the DIP rod of drawing 10 are formed in a disk 18, and are replaced by the fraction 180 which ****s with the opening 190 of a disk 19 and which was started

partially or was hammered out. When equipped, the aforementioned fraction 180 is pushed in in opening 190, and frees the disk of two sheets mutually.

[0032] Furthermore, as for the DIP rod or the mechanical insertion component like a fraction which was started partially or was hammered out, it is advantageous to replace by pasting up the disk of each other temporarily. In this case, the aforementioned adhesion is removed when using joint equipment first.

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DESCRIPTION OF DRAWINGS

[An easy explanation of a drawing]

[Drawing 1] It is the decomposition perspective diagram of the first example of the joint equipment of this invention.

[Drawing 2] It is the cross section of the joint equipment of drawing 1 .

[Drawing 3] Drawing 3 A is line III-III of drawing 2 . It is drawing showing the status that it is the cross section which met, and the front view in which drawing 3 B expands and shows a part of drawing 3 A, and the eccentricity field or a cam disk is in a non-setting up position.

[Drawing 4] The joint equipment of drawing 3 A is drawing showing the status are in the activation point of an epicyclic gear.

[Drawing 5] It is the rough cross section of other examples of the joint device of this invention.

[Drawing 6] It is a cross section in alignment with line VI-VI of drawing 5 .

[Drawing 7] It is the rough cross section of the example of further others of the joint equipment of this invention.

[Drawing 8] It is a cross section in alignment with line VIII-VIII of drawing 7 .

[Drawing 9] It is the cross section in alignment with line XI-XI of the joint equipment of drawing 10 with which it equipped with two DIP rods.

[Drawing 10] It is a cross section in alignment with line X-X of drawing 9 when equipping joint equipment with the eccentricity field.

[Drawing 11] It is a cross section in alignment with line XI-XI of drawing 10 at the time of equipping by the fraction which was started partially or was hammered out.

[An explanation of a sign]

1 Fixed Flange

3 Internal Tooth of Fixed Flange

4 Gear Tooth of Double Epicyclic Gear

5 Double Epicyclic Gear

5a Opening

6 Gear Tooth of Double Epicyclic Gear

7 Internal Tooth of Fixed Flange

8 Fixed Flange

13 Coronary Field

14 Ball

15 Crimpling

18 Disk

19 Disk

18a ****

19a ****

18b Hollow housing

18b Hollow housing

20 Driving Shaft

21a Salient
23 Arch-like Aperture
24 Arch-like Aperture
23a ****
24a ****
25 Opening
26 Opening
27 Opening
28 Opening
30 Elastic Element
180 Fraction Which was Started Partially or was Hammered Out
190 Inside Opening of Disk 19

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